

TRENDS IN COLORECTAL CANCER RATES IN URBAN SHANGHAI, 1972-1996, IN RELATION TO DIETARY CHANGES

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PURPOSE: In urban Shanghai, the largest industrial and commercial city in China, the age-adjusted (world standard) incidence rates for colorectal cancer increased from 14.5 to 23.3 per 10⁵ men and from 12.1 to 20.3 per 10⁵ women between 1972 and 1996. This change was even more pronounced for colon cancer, whose incidence rates doubled from 5.95 to 13.7 per 10⁵ men and from 5.77 to 12.5 per 10⁵ women. The reasons for the rapid increases in cancer rates are not fully understood, but may involve dietary exposures that have changed substantially over the past two decades.

METHODS: We calculated Pearson correlation coefficients (*r*) between colorectal cancer rates and the dietary factors of grain, vegetable oil, pork, poultry and vegetable consumption over the period of 1972 through 1996 in urban Shanghai.

RESULTS: Statistically significant positive associations were observed between colon cancer rates and per capita consumption of vegetable oil (*r* = 0.91 for men, *r* = 0.94 for women), poultry (*r* = 0.90 for men, *r* = 0.90 for women), and pork (*r* = 0.78 for men, *r* = 0.81 for women). The correlation coefficients were not statistically significant between colon cancer and per capita consumption of grain (*r* = 0.38 for men, *r* = 0.37 for women) or vegetables (*r* = 0.16 for men, *r* = 0.14 for women). Similar weaker associations were observed between rectal cancer rates and vegetable oil, pork and poultry consumption.

CONCLUSIONS: The findings in our study suggest that increases in dietary fat, poultry and pork intake may play a role in the rising colorectal cancer rates in Shanghai.

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LUNG CANCER AND INDOOR AIR POLLUTION IN RURAL CHINA

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PURPOSE: Indoor air pollution has been linked with lung cancer in China. In contrast to previous studies conducted in urban areas with high levels of industrial pollution, we undertook a lung cancer case-control study in a rural area of China, where residents live in underground dwellings. We evaluated the effects of radon, wood and coal combustion, cooking oil fumes, and environmental tobacco smoke on lung cancer risk.

METHODS: We enrolled 886 lung cancer cases (656 males, 230 females) diagnosed between 1994-98, aged 30-75 years and 1765 frequency matched population-based controls from two prefectures in Gansu Province in Northwestern China. We conducted

interviews with subjects or next of kin on smoking, housing characteristics, fuel use and cooking practices. Year-long radon detectors were placed in current and former homes of subjects.

RESULTS: Subjects primarily used coal (22%), wood (56%) or a combination of both (22%) for heating. Odds Ratios (OR) for lung cancer rose with increasing percent of time that coal was used to heat homes over the past 30 years (ORs = 1.00, 1.17, 1.35, 1.23 compared to wood only, adjusted to smoking, *P* for trend = 0.025). Among non-smoking females and males, the OR for ever exposed to environmental tobacco smoke was 1.19, 95% CI = 0.7-2.0 with a significant trend for increasing years of exposure. Fumes from cooking with rapeseed oil increased the risk of lung cancer (OR = 1.56, 95% CI = 1.0-2.5) among non-smoking women. Among these women, occasional and frequent eye and throat irritation during cooking appeared to be associated with increased risk of lung cancer (ORs = 1.00, 1.42, 2.28, *p* trend < 0.01), whereas, increasing level of smokiness during cooking did not appear to affect risk.

CONCLUSIONS: There is a suggestion that coal used for heating, environmental tobacco smoke, and cooking oil fumes contribute to the risk of lung cancer in this rural area of China.

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USING NORTH CAROLINA MEDICARE DATA TO ASSESS EXCESS PROSTATE CANCER MORTALITY AMONG AFRICAN AMERICANS

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PURPOSE: To investigate the basis for the higher prostate cancer mortality rate for African American (AA) men, which is twice the rate for White men.

METHODS: 221 AA and 979 White men with a primary diagnosis code of prostate cancer ("patients") in the North Carolina Medicare Hospitalization claims from 1997 were compared with 1,326 AA and 5,874 White men of the same age with no cancer hospitalizations ("beneficiaries") selected from the NC Medicare Enrollment files. Mortality rates were calculated as the cumulative percent of deaths using the hospital discharge date as day 1. AA and White age distributions were similar.

RESULTS: Cumulative mortality percentages at 6, 12, and 18 months were, respectively, 4.5, 7.7, 10.9 for AA patients; 2.8, 6.5, 9.2 for White patients; 2.3, 3.8, 7.4 for AA beneficiaries; and 1.8, 3.1, 6.1 for White beneficiaries.

CONCLUSIONS: AA prostate cancer patients had higher overall mortality than did White prostate cancer patients during the first year, but by 12-months the White-Black survival advantage for prostate cancer patients was similar in magnitude to the White-Black survival advantage among the non-cancer Medicare beneficiaries. AAs' higher prostate cancer mortality may derive from higher short-term case fatality rates, which may reflect differences in treatment and access to quality medical care, co-morbidities, and tumor